(1) Gives access into the hull; and

(2) Is in an exposed place.

(e) If an opening in a deckhouse or companionway has a Class-1 watertight door installed, the height of the watertight coaming need only accommodate the door.

§ 174.225 Hull penetrations and shell connections.

Each overboard discharge and shell connection except an engine exhaust must comply with §§ 56.50–95 and 128.230 of this chapter.

Subpart H—Special Rules Pertaining to Liftboats

SOURCE: CGD 82–004 and CGD 86–074, 62 FR 49355, Sept. 19, 1997, unless otherwise noted.

§ 174.240 Applicability.

Each liftboat inspected under subchapter L of this chapter must comply with this subpart.

§ 174.245 General.

Each liftboat must comply with §§ 174.210 through 174.225.

§ 174.250 Unrestricted service.

Each liftboat not limited to restricted service must comply with subpart C of this part in each condition of loading and operation.

§ 174.255 Restricted service.

This section applies to each liftboat unable to comply with § 174.250 and limited to restricted service as defined by § 125.160 of this chapter.

(a) *Intact stability.* (1) Each liftboat must be shown by design calculations to meet, under each condition of loading and operation afloat, the following requirements:

(i) Those imposed by § 174.045, given a ''K'' value of at least 1.4.

(ii) A range of positive stability of at least 10 degrees extending from the angle of the first intercept of the curves of righting moment and wind heeling moment, either to the angle of the second intercept of those curves or to the angle of heel at which downflooding would occur, whichever angle is less.

(iii) A residual righting energy of at least 0.003 meter radians (5 foot-degrees) between the angle of the first intercept of the curves of righting moment and wind heeling moment, either to the angle of the second intercept of those curves or to the angle of heel at which downflooding would occur, whichever angle is less.

(2) For this section, each wind heeling moment must be calculated as prescribed by § 174.055 of this part using winds of 60 knots for normal conditions of operation afloat and of 70 knots for severe-storm conditions of operation afloat.

(3) For paragraph (a)(1) of this section, the initial metacentric height must be at least 300 millimeters (1 foot) for each leg position encountered while afloat including the full range of leg positions encountered while jacking.

(b) *Damaged stability.* (1) Each liftboat must be designed so that, while it is in each of its normal operating conditions, its final equilibrium waterline will remain below the lowest edge of any opening through which additional flooding can occur if the liftboat is subjected simultaneously to—

(i) Damage causing flooding described by paragraph (b)(4) of this section; and

(ii) A wind heeling moment calculated in compliance with § 174.055(b) using a wind speed of 50 knots.

(2) Each liftboat must have a means of closing off each pipe, ventilation system, and trunk in each compartment described by paragraph (b)(4) of this section if any part of the pipe, ventilation system, or trunk is within 760 millimeters (30 inches) of the hull.

(3) For compliance with paragraph (b)(1) of this section, no compartment on the liftboat may be ballasted or pumped out to compensate for the flooding described by paragraph (b)(4) of this section.

(4) For compliance with paragraph (b)(1) of this section, each compartment within 760 millimeters (30 inches) of the hull, excluding the bottom of the liftboat, between two adjacent main watertight bulkheads and the uppermost continuous deck or first superstructure deck where superstructures are fitted must be assumed subject to simultaneous flooding.

(5) In the calculations required by paragraph (b)(1) of this section, the permeability of a floodable space must be as listed by Table 174.205(d).

(c) *On-bottom stability*. Each liftboat must be shown by design calculations to exert a continuous downward force on each footing when the vessel is supported on the bottom with footings and is subjected to the forces of waves, currents, and winds of 70 knots under normal conditions of operation, and winds of 100 knots under severe-storm conditions of operation when elevated in a safe place, if this place is other than a harbor of safe refuge. The waves and currents must be appropriate for the winds and place.

§ 174.260 Freeboard.

(a) Each liftboat not required to obtain and maintain a loadline in compliance with subchapter E of this chapter must place markings on each side of the vessel amidships. These markings must each consist of a horizontal line 460 millimeters (18 inches) in length and 25 millimeters (1 inch) in height. The upper edges of the markings must be at a distance equal to the authorized freeboard measured vertically below the intersection of the continuation outwards of the upper surface of the weather deck and the outer surface of the shell. This distance must be at least 610 millimeters (24 inches).

(b) The markings required by paragraph (a) of this section may not be submerged in any condition of loading or operation.

Subpart I—Hopper Dredges With Working Freeboard Assignments

SOURCE: CGD 76–080, 54 FR 36977, Sept. 6, 1989, unless otherwise noted.

§ 174.300 Specific applicability.

This subpart applies to each self-propelled hopper dredge for which a working freeboard assignment is being sought under part 44, subpart C, of this chapter.

§ 174.305 Definitions.

Hopper dredge has the same meaning as contained in § 44.310 of this chapter.

Length has the same meaning as contained in § 42.13–15(a) of this chapter.

Working freeboard has the same meaning as contained in § 44.310 of this chapter.

CALCULATIONS

§ 174.310 General.

(a) Each hopper dredge under this subpart must be shown by design calculations based on the assumptions under paragraphs (b), (c), (d), and (e) of this section, that it meets—

(1) The requirements in §§ 170.170, 170.173, and 170.300 of this chapter in each condition of loading and operation; and

(2) The survival conditions of § 174.320 in each condition of loading and operation assuming the character and extent of damage specified in § 174.315.

(b) The calculations required by paragraph (a) of this section must assume:

(1) The hoppers are full of seawater;

(2) The permeability of flooded spaces is as provided by Table 174.310;

(3) The equalization provisions of § 174.325; and

(4) The jettisoning provisions of § 174.330.

(c) The calculations required by this section must take into account a sufficient number of loading conditions to identify the condition in which the vessel is least stable, including, but not limited to, the most severe loading condition, and the:

(1) Specific gravity of the dredge spoil, from 1.02 up to and including the maximum required by paragraph (e)(1) of this section; and

(2) Draft, up to and including the draft corresponding to the working freeboard for the full range of trim.

(d) The calculations required by this section for a dredge with open hoppers may include spillage of spoil from the hopper resulting from changing the angle of heel and trim.

(e) The following assumptions must be made when doing the calculations required by this section:

(1) Dredged spoil in the hopper is a homogeneous liquid with a maximum specific gravity for the areas of operation.

(2) When calculating the vessel's righting arm, it is assumed at each